

# BCR08AM-14A

700V-0.8A-Triac

Low Power Use

R07DS1226EJ0300

Rev.3.00

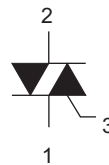
Jul 31, 2014

## Features

- $I_{T(RMS)}$  : 0.8 A
- $V_{DRM}$  : 700 V
- $I_{FGT1}$ ,  $I_{RGT1}$ ,  $I_{RGT3}$  : 5 mA
- Non-Insulated Type
- Planar Passivation Type

## Outline

RENESAS Package code: PRSS0003EA-A  
(Package name: TO-92\*)



1. T<sub>1</sub> Terminal
2. T<sub>2</sub> Terminal
3. Gate Terminal

## Applications

Washing machine, electric fan, air purifier, electric pot, rice-cooker, electric blanket, refrigerator, Solid State Relay, and other general purpose AC control applications

## Maximum Ratings

Parameter	Symbol	Voltage class	Unit
		14	
Repetitive peak off-state voltage <sup>Note1</sup>	$V_{DRM}$	700	V
Non-repetitive peak off-state voltage <sup>Note1</sup>	$V_{DSM}$	840	V

Notes: 1. Gate open.

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	$I_{T(RMS)}$	0.8	A	Commercial frequency, sine full wave 360° conduction, T <sub>c</sub> = 67°C
Surge on-state current	$I_{TSM}$	8	A	60 Hz sinewave 1 full cycle, peak value, non-repetitive
$I^2t$ for fusing	$I^2t$	0.26	A <sup>2</sup> s	Value corresponding to 1 cycle of half wave 60 Hz, surge on-state current
Peak gate power dissipation	$P_{GM}$	1	W	
Average gate power dissipation	$P_{G(AV)}$	0.1	W	
Peak gate voltage	$V_{GM}$	6	V	
Peak gate current	$I_{GM}$	0.5	A	
Junction temperature	T <sub>j</sub>	- 40 to +125	°C	
Storage temperature	T <sub>stg</sub>	- 40 to +125	°C	
Mass	—	0.23	g	Typical value

Notes: 1. Gate open.

## Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Repetitive peak off-state current	$I_{\text{DRM}}$	—	—	1.0	mA	$T_j = 125^\circ\text{C}$ , $V_{\text{DRM}}$ applied
On-state voltage	$V_{\text{TM}}$	—	—	2.0	V	$T_c = 25^\circ\text{C}$ , $I_{\text{TM}} = 1.2\text{ A}$ , Instantaneous measurement
Gate trigger voltage <sup>Note2</sup>	I	$V_{\text{FGTI}}$	—	—	2.0	$T_j = 25^\circ\text{C}$ , $V_D = 6\text{ V}$ , $R_L = 6\ \Omega$ , $R_G = 330\ \Omega$
	II	$V_{\text{RGTI}}$	—	—	2.0	
	III	$V_{\text{RGTIII}}$	—	—	2.0	
Gate trigger current <sup>Note2</sup>	I	$I_{\text{FGTI}}$	—	—	5	$T_j = 25^\circ\text{C}$ , $V_D = 6\text{ V}$ , $R_L = 6\ \Omega$ , $R_G = 330\ \Omega$
	II	$I_{\text{RGTI}}$	—	—	5	
	III	$I_{\text{RGTIII}}$	—	—	5	
Gate non-trigger voltage	$V_{\text{GD}}$	0.1	—	—	V	$T_j = 125^\circ\text{C}$ , $V_D = 1/2 V_{\text{DRM}}$
Thermal resistance	$R_{\text{th(j-c)}}$	—	—	50	$^\circ\text{C/W}$	Junction to case <sup>Note3</sup>
Critical-rate of rise of off-state commutating voltage <sup>Note4</sup>	$(dv/dt)_c$	0.5	—	—	$\text{V}/\mu\text{s}$	$T_j = 125^\circ\text{C}$

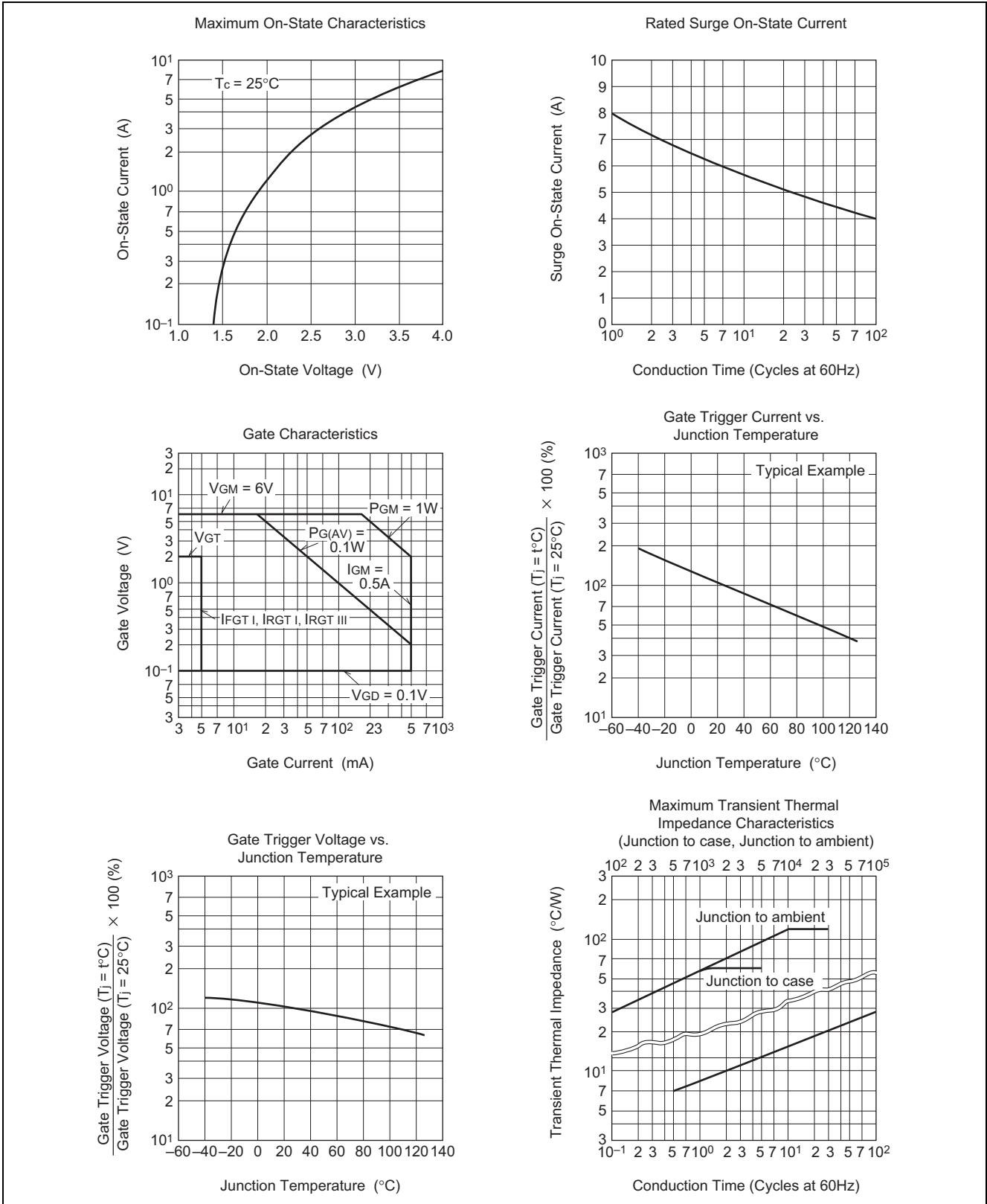
Notes: 2. Measurement using the gate trigger characteristics measurement circuit.

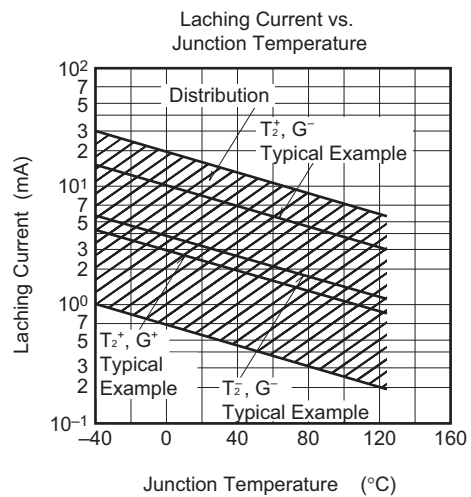
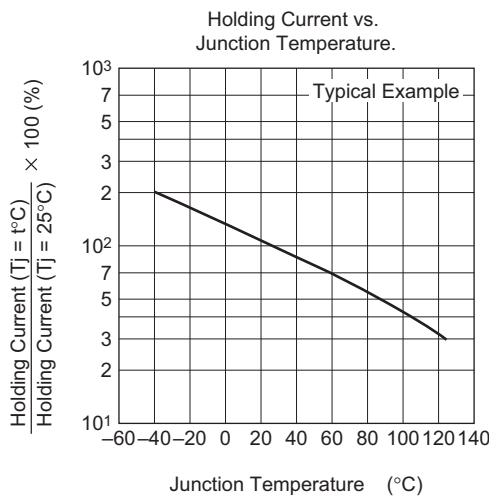
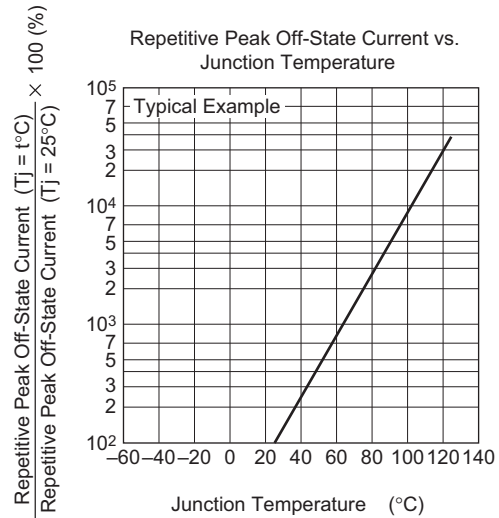
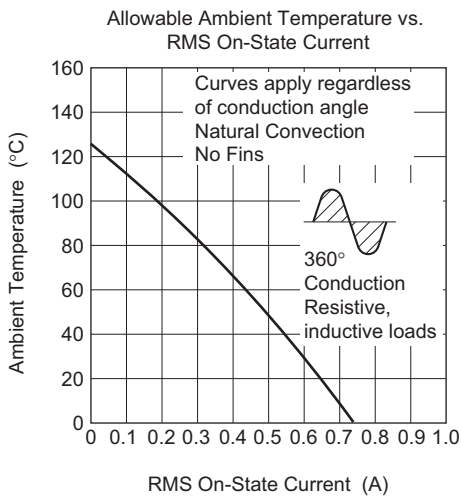
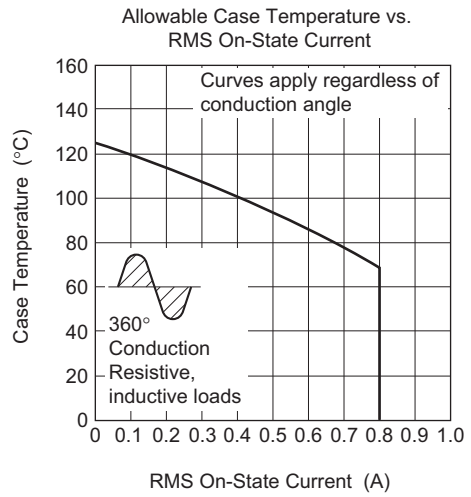
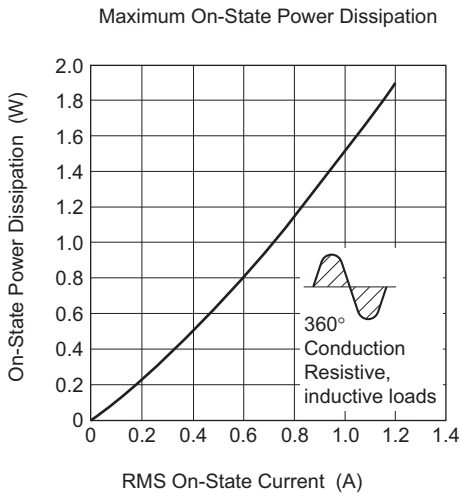
3. Case temperature is measured at the  $T_2$  terminal 1.5 mm away from the molded case.

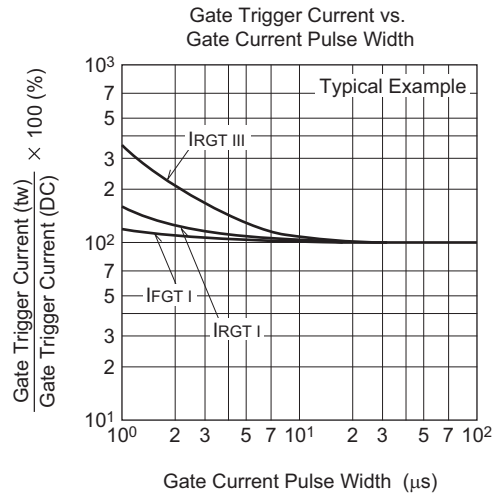
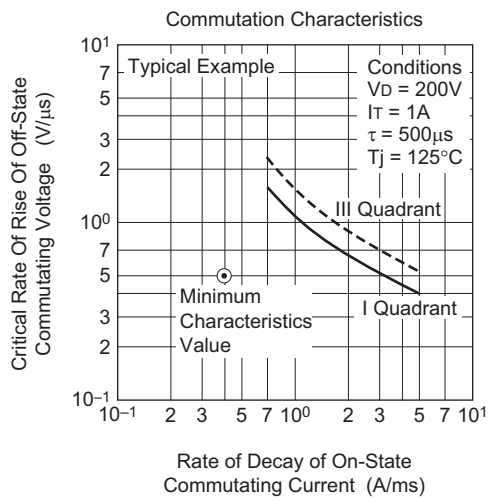
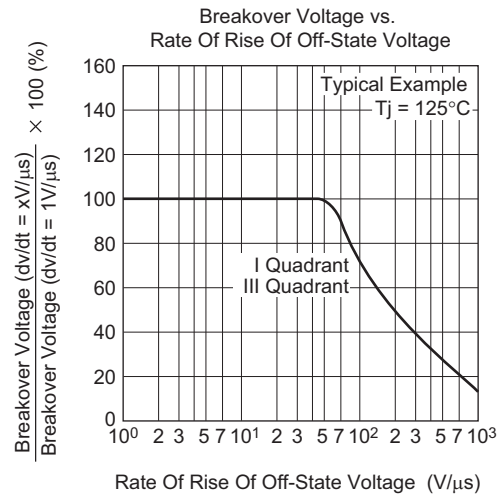
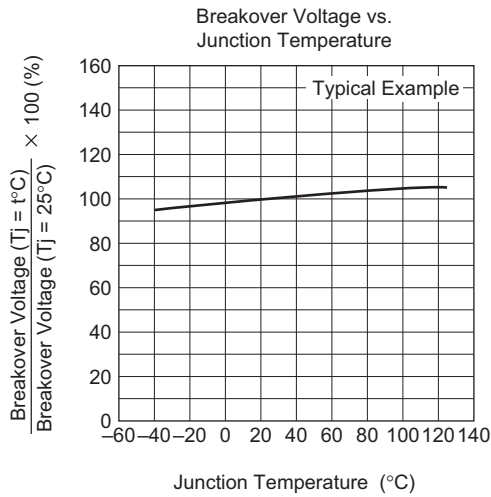
4. Test conditions of the critical-rate of rise of off-state commutating voltage is shown in the table below.

Test conditions	Commutating voltage and current waveforms (inductive load)
1. Junction temperature $T_j = 125^\circ\text{C}$ 2. Rate of decay of on-state commutating current $(di/dt)_c = -0.4\text{ A/ms}$ 3. Peak off-state voltage $V_D = 400\text{ V}$	

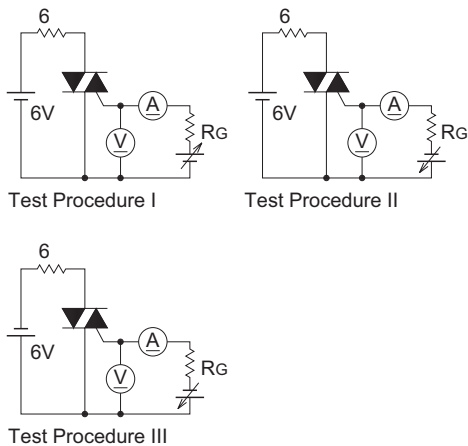
Performance Curves







Gate Trigger Characteristics Test Circuits



## Package Dimensions

Package Name	JEITA Package Code	RENESAS Code	Previous Code	MASS[Typ.]
TO-92*	SC-43A	PRSS0003EA-A	—	0.23g

Unit: mm

## Ordering Information

Orderable Part Number	Packing <sup>Note5</sup>	Quantity	Remark	Quality Grade <sup>Note7</sup>
BCR08AM-14A#B00	Plastic Bag	500 pcs.	Straight type	General Industrial & Consumer Use
BCR08AM-14A-A6#B00	Plastic Bag	500 pcs.	A6 Lead form	General Industrial & Consumer Use
BCR08AM-14A-TB#B00	Adhesive Tape	2000 pcs.	A8 Lead form	General Industrial & Consumer Use
BCR08AM-14A#FD0	Plastic Bag	1000 pcs.	Straight type	Special Consumer Use <sup>Note6</sup>
BCR08AM-14A-A6#FD0	Plastic Bag	1000 pcs.	A6 Lead form	Special Consumer Use <sup>Note6</sup>

Notes: 5. Please confirm the specification about the shipping in detail.

6. "Special Consumer Use" grade product is not tested for the "Temperature Humidity Bias" reliability in the condition of rated  $V_{DRM}$ . Please be sure to implement qualification tests and judge whether the product meets your criteria. If necessary, please apply moisture-proof measures according to user's conditions.

7. For further details about the classification in the Standard quality grade, please refer to the application note.

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